Amendments to the Claims/Listing of Claims

Please amend the claims prior to examination of the instant application. This listing of claims replaces all prior versions and listings of claims in the application:

1. (Previously Presented) An amylin family peptide, said peptide comprising:

a loop region of amylin, calcitonin, or an analog of amylin or calcitonin, wherein said loop region is at the N-terminal end of said peptide;

an α helix region of a) at least a portion of a calcitonin α helix region or an analog thereof or b) a combination of at least a portion of a calcitonin α helix region or an analog thereof and at least a portion of an amylin α helix region or an analog thereof; and

a C-terminal tail of amylin, calcitonin, or an analog of amylin or calcitonin;

with the proviso that when the loop region is from a calcitonin or a calcitonin analog and the α helix region is from a calcitonin or a calcitonin analog, the last position of the C-terminal tail is not proline, hydroxyproline, homoserine or derivative of homoserine..

2. (Previously Presented) The peptide of claim 1 wherein said amylin is a human amylin or an analog thereof.

3. (Previously Presented) The peptide of claim 1 wherein said calcitonin is a salmon calcitonin.

4. (Previously Presented) The peptide of claim 2 wherein said calcitonin is salmon calcitonin.

5. (Previously Presented) The peptide of claim 1 comprising an amino acid sequence of formula I:

Xaa1 X Xaa3 Xaa4 Xaa5 Xaa6 Y Xaa8 Xaa9 Xaa10 Xaa11 Xaa12 Xaa13 Xaa14
Xaa15 Xaa16 Xaa17 Xaa18 Xaa19 Xaa20 Xaa21 Xaa22 Xaa23 Xaa24 Xaa25
Xaa26 Xaa27 Xaa28 Xaa29 Xaa30 Xaa31 Xaa32 (SEQ ID NO:34)

wherein

Xaa1 is A, C, hC, D, E, F, I, L, K, hK, R, hR, S, Hse(homoSER), T, G, Q, N, M, Y, W, P, Hyp(hydroxyProline), H, V or absent;

Xaa3 is A, D, E, N, Q, G, V, R, K, hK, hR, H, I, L, M, or absent;

Xaa4 is A, I, L, S, Hse, T, V, M, or absent;

Xaa5 is A, S, T, Hse, Y, V, I, L, or M;

Xaa6 is T, A, S, Hse, Y, V, I, L, or M;

Xaa8 is A, V, I, L, F, or M;

Xaa9 is L, T, S, Hse, V, I, or M;

Xaa10 is G, H, Q, K, R, N, hK, or hR;

Xaa11 is K, R, Q, N, hK, hR, or H;

Xaa12 is L, I, V, F, M, W, or Y;

Xaa13 is A, F, Y, N, Q, S, Hse, or T;

Xaa14 is A, D, E, G, N, K, Q, R, H, hR, or hK;

Xaa15 is A, D, E, F, L, S, Y, I, V, or M;

Xaa16 is L, F, M, V, Y, or I;

Xaa17 is H, Q, N, S, Hse, T, or V;

Xaa18 is K, hK, R, hR, H, u (Cit), or n (Orn);

Xaa19 is F, L, S, Hse, V, I, T, or absent;

Xaa20 is H, R, K, hR, hK, N, Q, or absent;

Xaa21 is T, S, Hse, V, I, L, Q, N, or absent;

Xaa22 is F, L, M, V, Y, or I;

Xaa23 is P or Hyp;

Xaa24 is P, Hyp, R, K, hR, hK, or H;

Xaa25 is T, S, Hse, V, I, L, F, or Y;

Xaa26 is N, Q, D, or E;

Xaa27 is T, V, S, F, I, or L;

Xaa28 is G or A;

Xaa29 is S, Hse, T, V, I, L, or Y;

Xaa30 is E, G, K, N, D, R, hR, hK, H, or Q;

Xaa31 is A, T, S, Hse, V, I, L, F, or Y; and

Xaa32 is F, P, Y, Hse, S, T, or Hyp;

wherein X and Y are capable of creating a bond and are independently selected residues having side chains which are chemically bonded to each other to form an intramolecular linkage.

6. (Previously Presented) The peptide of claim 5 wherein said intramolecular linkage of X and Y is a disulfide, an amide, an imine, an amine, an alkyl, an alkene, an alkynyl, an alkenyl, an ether or a thioether bond.

7. (Original) The peptide of claim 5 further comprising 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12, modifications of substitutions, insertions, deletions, elongations and/or derivatizations.

8. (Original) The peptide of claim 1 comprising an amino acid sequence of formula II:

Xaa1 Xaa2 Xaa3 Xaa4 Xaa5 Xaa6 Xaa7 Xaa8 Xaa9 Xaa10 Xaa11 Xaa12 Xaa13
Xaa14 Xaa15 Xaa16 Xaa17 Xaa18 Xaa19 Xaa20 Xaa21 Xaa22 Xaa23 Xaa24
Xaa25 Xaa26 Xaa27 Xaa28 Xaa29 Xaa30 Xaa31 Xaa32 (SEQ ID NO:35)

wherein

Xaa1 is A, C, D, F, I, K, S, T, or absent;

Xaa2 is C, D, S, or absent;

Xaa3 is A, D, N, or absent;

Xaa4 is A, L, T, or absent;

Xaa5 is A or S;

Xaa6 is T, A, S, or V;

Xaa7 is C, K, or A;

Xaa8 is A, V, L, or M;

Xaa9 is L or T;

Xaa10 is G, H, or Q;

Xaa11 is K, R, Q, or hArg;

Xaa12 is L, W, or Y;

Xaa13 is A, F, N, Q, S, or T;

Xaa14 is A, D, E, G, N, K, Q, or R;

Xaa15 is A, D, E, F, L, S, or Y;

Xaa16 is L, or F;

Xaa17 is H, Q, S, or V;

Xaa18 is K, R, hArg, u (Cit), or n (Orn);

Xaa19 is F, L, S, or absent;

Xaa20 is H, Q, or absent;

Xaa21 is T, N, or absent;

Xaa22 is F, L, M, V, or Y;

Xaa23 is P;

Xaa24 is P or R;

Xaa25 is T;

Xaa26 is N;

Xaa27 is T or V;

Xaa28 is G;

Xaa29 is S;

Xaa30 is E, G, K, or N;

Xaa31 is A or T; and

Xaa32 is F, P, or Y.

9. (Original) The peptide of claim 8 further comprising 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12, modifications of substitutions, insertions, deletions, elongations and/or derivatizations.

10. (Original) The peptide of claim 1 comprising an amino acid sequence of formula III:

Xaa1 Xaa2 Xaa3 Xaa4 Xaa5 Xaa6 Xaa7 Xaa8 Xaa9 Xaa10 Xaa11 Xaa12 Xaa13 Xaa14 Xaa15 Xaa16 Xaa17 Xaa18 Xaa19 Xaa20 Xaa21 Xaa22 Xaa23 Xaa24 Xaa25 Xaa26 Xaa27 Xaa28 Xaa29 Xaa30 Xaa31 Xaa32, (SEQ ID NO:36)

wherein

Xaa1 is A, C, F, I, K, S, or absent;

Xaa2 is C, D, or S;

Xaa3 is A, D or N;

Xaa4 is A, L or T;

Xaa5 is A or S;

Xaa6 is T;

Xaa7 is C or K;

Xaa8 is A or V;

Xaa9 is L or T;

Xaa10 is G, H, or Q;

Xaa11 is K, R, or hArg;

Xaa12 is L;

Xaa13 is A, F, N, S, or T;

Xaa14 is A, D, E, G, N, Q, or R;

Xaa15 is A, E, F, L, S, or Y;

Xaa16 is L;

Xaa17 is H, S, or V;

Xaa18 is K, R, hArg, u (Cit), or n (Orn);

Xaa19 is F, L, or S;

Xaa20 is H or Q;

Xaa21 is T or N;

Xaa22 is F, L, M, V, or Y;

Xaa23 is P;

Xaa24 is P or R;

Xaa25 is T;

Xaa26 is N;

Xaa27 is T, or V;

Xaa28 is G;

Xaa29 is S;

Xaa30 is E, G, K, or N;

Xaa31 is A, or T; and

Xaa32 is F, P, or Y.

11. (Original) The peptide of claim 11 further comprising 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, or 12, modifications of substitutions, insertions, deletions, elongations and/or derivatizations.

12. (Previously Presented) An amylin family peptide, said peptide comprising a sequence of any one of SEQ ID NO:40 to SEQ ID NO:137.

13. (Previously Presented) The peptide of claim 12 wherein said peptide has at least 95% sequence identify to any one of SEQ ID NO:40 to SEQ ID NO:137.

14. (Previously Presented) A method of treating eating disorders, insulin-resistance, obesity, abnormal postprandial hyperglycemia, diabetes of any kind, including Type I, Type II, and

gestational diabetes, Metabolic Syndrome, Dumping Syndromc, hypertension, dyslipidemia, cardiovascular disease, hyperlipidemia, sleep apnea, cancer, pulmonary hypertension, cholecystitis, and osteoarthritis comprising administering to a subject in need thereof an effective amount of a peptide of claim 1.

15. (Previously Presented) A method of treating eating disorders, insulin-resistance, obesity, abnormal postprandial hyperglycemia, diabetes of any kind, including Type I, Type II, and gestational diabetes, Metabolic Syndrome, Dumping Syndrome, hypertension, dyslipidemia, cardiovascular disease, hyperlipidemia, sleep apnea, cancer, pulmonary hypertension, cholecystitis, and osteoarthritis comprising administering to a subject in need thereof an effective amount of a peptide of claim 5.

16. (Previously Presented) A method of treating eating disorders, insulin-resistance, obesity, abnormal postprandial hyperglycemia, diabetes of any kind, including Type I, Type II, and gestational diabetes, Metabolic Syndrome, Dumping Syndrome, hypertension, dyslipidemia, cardiovascular disease, hyperlipidemia, sleep apnea, cancer, pulmonary hypertension, cholecystitis, and osteoarthritis comprising administering to a subject in need thereof an effective amount of a peptide of claim 8.

17. (Previously Presented) A method of treating eating disorders, insulin-resistance, obesity, abnormal postprandial hyperglycemia, diabetes of any kind, including Type I, Type II, and gestational diabetes, Metabolic Syndrome, Dumping Syndrome, hypertension, dyslipidemia, cardiovascular disease, hyperlipidemia, sleep apnea, cancer, pulmonary hypertension, cholecystitis, and osteoarthritis comprising administering to a subject in need thereof an effective amount of a peptide of claim 12.

18. (Currently Amended) Thc peptide of claim 1 wherein
the loop region comprises an amino acid sequence of

X Xaa2 Xaa3 Xaa4 Xaa5 Xaa6 Xaa7 Y (SEQ ID NO:[[5]]**138**)

wherein

Xaa2 is any amino acid or absent;

Xaa3 is A, G, S, D or absent;

Xaa4 is N, A, D, G or absent;

Xaa5 is A, L, T, or S;

Xaa6 is A, S, or T;

Xaa7 is A, S, V, Hse, Ahb, Ahp, D-Thr, T, or a derivative thereof; and

wherein X and Y are capable of creating a bond and are independently selectcd residues having side chains which are chemically bonded to each other to form an intramolecular linkage;

the α helix region comprises an amino acid sequence of

R1 V L Xaa10 Xaa11 L S Q Xaa15 L Xaa17 Xaa18 L Q T Xaa22 P Xaa24 T N T R1 (SEQ ID NO:29)

wherein

Xaa10 is G or Aib;

Xaa11 is K, R, Orn, hArg, Cit, hLys, or Lys(for);

Xaa15 is E or F;

Xaa17 is H or Aib;

Xaa18 is K, R, Orn, hArg, Cit, hLys, Lys(for), or Lys(PEG 5000);

Xaa22 is Y or L;

Xaa24 is R or P; and

R1 is absent or comprises 1-4 additional amino acids; and

the C-terminal tail comprises an amino acids sequence of

Xaa28 Xaa29 Xaa30 Xaa31 Xaa32 Xaa33 G Xaa35 Xaa36 Xaa37 Xaa38 (SEQ ID NO:31)

wherein

Xaa28 is K, Y, or absent;

Xaa29 is S, P, or absent;

Xaa30 is S, P, R, or absent;

Xaa31 is T or absent;

Xaa32 is N or absent;

Xaa33 is V, T, or absent;

Xaa35 is S or E;

Xaa36 is N, K, or G;

Xaa37 is T, F, or A;

Xaa38 is Y, F, P, or absent.

19. (Currently Amended) The peptide of claim 1 wherein

the loop region comprises an amino acid sequence of

X Xaa2 Xaa3 Xaa4 Xaa5 Xaa6 Xaa7 Y (SEQ ID NO:[[5]]**138**)

wherein

Xaa2 is any amino acid or absent;

Xaa3 is A, G, S, D or absent;

Xaa4 is N, A, D, G or absent;

Xaa5 is A, L, T, or S;

Xaa6 is A, S, or T;

Xaa7 is A, S, V, Hse, Ahb, Ahp, D-Thr, T, or a derivative thereof; and

wherein X and Y are capable of creating a bond and are independently selected residues having side chains which are chemically bonded to each other to form an intramolecular linkage;

the α helix region comprises an amino acid sequence of

R1 Xaa8 Xaa9 Xaa10 R Xaa12 Xaa13 Xaa14 Xaa15 Xaa16 Xaa17 Xaa18 Xaa19 Xaa20 Xaa21 Xaa22 P Xaa24 T N T R1 (SEQ ID NO:30)

wherein

Xaa8 is A or V;

Xaa9 is T, M, or L;

Xaa10 is Q, G, or H;

Xaa12 is L or T;

Xaa13 is A, T, N, F, Y, S, or T;

Xaa14 is N, R, A, D, Q, E, T, or G;

Xaa15 is F, L, S, E, A, D, or Y;

Xaa16 is L or D;

Xaa17 is V, H, S, F, or Aib;

Xaa18 is H, R, K, Orn, hArg, Cit, hLys, Lys(for), or Lys(PEG 5000);

Xaa19 is L, S, or F;

Xaa20 is Q or H;

Xaa21 is T or N;

Xaa22 is Y, V, F, L, or M;

Xaa24 is R or P; and

R1 is absent or comprises 1-4 additional amino acids; and

the C-terminal tail comprises an amino acids sequence of

Xaa28 Xaa29 Xaa30 Xaa31 Xaa32 Xaa33 G Xaa35 Xaa36 Xaa37 Xaa38

(SEQ ID NO:31)

wherein

Xaa28 is K, Y, or absent;

Xaa29 is S, P, or absent;

Xaa30 is S, P, R, or absent;

Xaa31 is T or absent;

Xaa32 is N or absent;

Xaa33 is V, T, or absent;

Xaa35 is S or E;

Xaa36 is N, K, or G;

Xaa37 is T, F, or A;

Xaa38 is Y, F, P, or absent.